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Air and Radiation Docket
US Environmental Protection Agency
Mail Code 6102T
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Attn: Docket OAR-2002-0064

RE: Protection of Stratospheric Ozone: Listing of Substitutes for Ozone-Depleting Substances – n-Propyl Bromide, FR Vol. 68, No. 106, June 3, 2003

Albemarle would like to comment on the Environmental Protection Agency's recently published Notice of Proposed Rulemaking for n-Propyl Bromide (nPB). The proposed rulemaking would list nPB as an acceptable substitute for ozone-depleting substances, subject to use conditions, in the solvent cleaning sector and aerosol solvents and adhesive end uses under EPA's Significant New Alternatives Policy (SNAP) program. Included in the proposal is a recommended workplace acceptable exposure limit (AEL) of 25 ppm as a time weighted average. We would like to commend EPA on the (extensive) effort that has gone into this rulemaking.

EPA has requested specific comment on the following:

[1] Is it appropriate for EPA to find nPB acceptable for use in the solvent metals, electronics, and precision cleaning, aerosol solvents and adhesives, coatings and inks sectors? Why or why not? Should EPA have different decisions for different sectors or end uses? In particular, given that the CERHR Expert panel expressed concern about "poorly controlled spray adhesive applications," should EPA find nPB acceptable, subject to use conditions, for use in spray adhesives? Should the Agency find nPB acceptable, subject to use conditions, for use in aerosol solvents, or should nPB's use be limited to certain applications in this end use?

Albemarle has supported the use of nPB in applications where workplace practices can control worker and atmospheric exposures. The majority of our customers use nPB-based solvents in metal and electronic cleaning. Our industrial hygiene program for nPB-based solvents has conducted extensive air sampling and work place practice evaluation for customers. The majority of the samples have shown values well below 25 ppm. In those few workplaces with higher levels on initial sampling, adoption of recommended workplace ventilation and handling practices produced acceptable subsequent sampling values. Thus, our experiences with our customers' worksites, as well as in our own plants, have also shown that exposures can be controlled to protective levels.

As to other applications, ICF evaluated four different occupational scenarios for spray adhesives and showed that improved work practices in this highly emissive application can control worker exposures below the recommended AEL.[1] We agree with this evaluation – with adequate handling procedures, exposures can be controlled

[2] What is an appropriate and achievable limit on the content of isopropyl bromide (iPB) in unstabilized nPB? Should this impurity limit be 0.1%, 0.05%, or 0.025% iPB by weight? Why? How much does each of these impurity levels add to the cost of cleaning solvents or adhesives made using nPB? In terms of $/drum, and as a percentage of current cost?

We agree that a level of 0.05 % iPB in unstabilized nPB is an appropriate and achievable limit. In fact, since 1996, Albemarle's product specification for isopropyl bromide has been 0.03% maximum. We do not know what it would cost per drum for a company not already using this specification to change.

[3] What is an appropriate acceptable exposure limit for EPA to recommend and why? If you disagree with the proposed exposure limit of 25 ppm, why do you disagree? Should EPA consider risk management principles in developing a recommended AEL? Please cite specific points of concern (e.g. studies considered, endpoints considered in BMD analysis, uncertainty factors applied?)

Albemarle agrees with EPA that an acceptable exposure limit for nPB is 25 ppm as a TWA, as long as skin exposures are also controlled. We have previously supplied EPA with our derivation of that value as an AEL. The recommended acceptable exposure limit derived by EPA used very conservative scientific processes and additional uncertainty factors are not needed for this value to be protective- even in highly emissive applications such as adhesives.

[4] Should nPB be listed acceptable with a skin notation?

Yes, a skin notation should be made for nPB. Appropriate handling practices for nPB contain measures for preventing skin exposure.

We support EPA's decision that nPB should receive SNAP approval. Evaluation of atmospheric modeling concluded that atmospheric effects of NPB are more favorable than continued use of methyl chloroform, and that modeled exposure for the general population from use of NPB even in adhesive applications fall below a protective reference concentration. We are not aware of any new peer-reviewed data that EPA should consider for this rulemaking.

Sincerely,

R.L. Smith
Director, Product Stewardship
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[1] "Risk Screen on the Use of Substitutes for Ozone-Depleting Substances; Proposed substitute: N-Propyl Bromide; End Use: Adhesive Applications" obtained from the EPA Air Docket (A-2001-07 II-A-13, May 17, 2002).